

PHENIX WEEKLY PLANNING



7/14/2011
Don Lynch

TECHNICAL
SUPPORT
2011

Complete PC1 repairs

Remove MuID collars

VTX/FVTX Work permit

Prep EC for move to AH, Move EC to AH?

Remove dumb waiter and ladder

Begin disassembling VTX

RPC1, VTX, FVTX and MuTr work prep

TECHNICAL SUPPORT



7/11/2011

Next Week

MuTr Vacuum lifting test re-certification

Continue Prep EC for move to AH,

Move EC to AH

Move Collars to AH

Install Aluminum plates

Continue disassembling VTX

BBC south maintenance

Remove RPC1 Prototype & RPC1 Prototype Absorber

RPC1, VTX, FVTX and MuTr work prep

Install new 1 ton cranes in IR



Planning For the 2011 Shutdown

TECHNICAL SUPPORT ZONE

- **Run 11 Ends** **Done**
- Shutdown Standard Tasks 6/28-7/21/2010
 - Open wall, disassemble wall, Remove MuID Collars,
 - Move EC to AH, etc.
- **PC1 repairs - Anders O.** **Done**
- IR Crane repairs and upgrade 7/21-7/28
- Disassemble VTX services 7/11-7/22
- Remove VTX and transport to Chemistry Lab 7/25/2011
- BBC North & South maintenance 7/22-7/29/2011
- MuTr North Station 1 work
 - Install access (Sta. 1 work platforms & CM west side hanging platform) 7/25-7/29/2011
 - Remove 1 section of bridge (1 week) (CAD Techs) 8/1-8/5/2011
 - Disconnect Cables, hoses etc, ID/label all (1 week) 8/8-8/12/2011
 - Remove FEE plates and chambers (1 week) 8/15-8/19/2011
 - Station 2 Maintenance/upgrade through access opened by station 1 removal (3 weeks concurrent with next task) 8/22/-9/9/2011
 - Clean/install new parts and upgrades (MuTr (3 weeks, concurrent At RPC Factory) 8/22/-9/9/2011
 - Re-install chambers and FEE plates (1 week) 9/12-9/16/2011
 - Re-cable, re-hose and test (3 weeks) 9/19-10/7/2011

Planning For the 2011 Shutdown (cont'd)

TECHNICAL SUPPORT ZONE

- MuTr North& South Station 2 & 3 Re-cap clamps (No internal work platforms to upper octants) (Need CAD Techs to remove MMS east vertical lampshade) 7/25-10/31/2011
- VTX maintenance/upgrade and integration of FVTX onto VTX support structure
 - Build 2 FVTX racks 7/1-9/15/2011
 - Disassemble VTX 7/11-7/25/2011
 - repair/upgrade/test/reassemble/resurvey VTX 7/25-9/30/2011
 - Assemble FVTX, presurvey Present-10/3/2011
 - Integrate FVTX into VTX, final internal survey 10/3-10/14/2011
 - Install VTX/FTX, Re-connect VTX services, Install FVTX services, survey and QA tests 10/17-10/28/2011
 - VTX/FVTX Commissioning 10/31-11/30/2001
- RPC1 upgrades 7/25-10/28/2011
 - Pre-survey RPC1's at factory (2 weeks, 1 each for n & s) 7/25-8/12/2011
 - Build 1 new rack, upgrade existing RPC1 prototype rack 7/25-8/12/2011
 - Install north RPC1 (including north rack) (3 weeks) 8/15-9/2/2011
- RPC3 HV Distribution modifications, gas distribution modifications, PS calibration 9/6-10/7
- Move Station 1 work platforms to south station 1 10/10-10/14/2011
 - Install south RPC1 (including south rack) (3 weeks) 10/17-11/4/2011
- Upgrade AH crane 8/15-9/15/2011
- DC/PC1 East troubleshooting (DC moved forward on rail for access) 10/15-11/15/2011
- Install VTX&FVTX (including installation of 2 racks on bridge) (2 weeks) 9/26-11/7/2011
- Undefined detector subsystem maintenance and repairs 7/25-11/7/2011
- Prep for EC roll in, reinstall MMS lampshade 11/3-11/7/2011
- Roll in EC 11/10/2011
- Prep IR for run 11/10-11/17/2010
- VTX, FVTX and RPC1 Services and commissioning (including 4 new racks) 9/16-11/30/201
- Pink/Blue/White sheets 11/17-11/30/2011
- Run 12 cooldown 12/1/2011

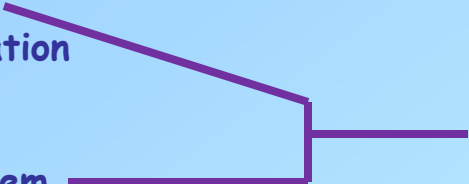
7/11/2011

Electronics Group 2011 Shutdown Tasks

TECHNICAL SUPPORT 2011

- CMT4 and CMT5 FVTX rack design and assembly for installation on the bridge. *Design in progress.*
- FVTX Bias cable assemblies.
 48 eight pair #22AWG. 1680 ft total.
 384 RG-174 cables terminated with CPC and MMCX R/A conns. 1500 ft total.
All parts are on order. Drawing finished and out for bid. .
- Purchase and install FVTX LV cables.
 Wedges: 96 eight pair #22AWG terminated in DF11 conns. 3400 ft total.
 ROCs: 24 twelve pair #16AWG terminated in TYCO 2-106527-4 conns. 900ft total.
Cable is on order.
- All FVTX fiberoptics specify, purchase and install.
MTP trunk order entered. Slow Controls fiber and patch bay order entered .
- FVTX LV output mapper boards. *Eric Mannel is designing and we will assemble.*
- PbSc terminator board production. *Part kit has been picked up. Terminators expected by 6/22.*
MuTr capacitors are here
- West carriage ADAM system performance upgrade.
Purchased a couple of Ethernet ADAMs for testing. Need to purchase a MODBUS server.
- Complete the GL1 6X1 Multiplexer assemblies and test. *Layout stage begun .*
- LeCroy HV control retrofit testing. *Waiting for documentation from Debrecen Institute.*
- Design/Install FVTX Interlock system.
Paul with some input from me and John. Also we may try to repair the bad TC connections.

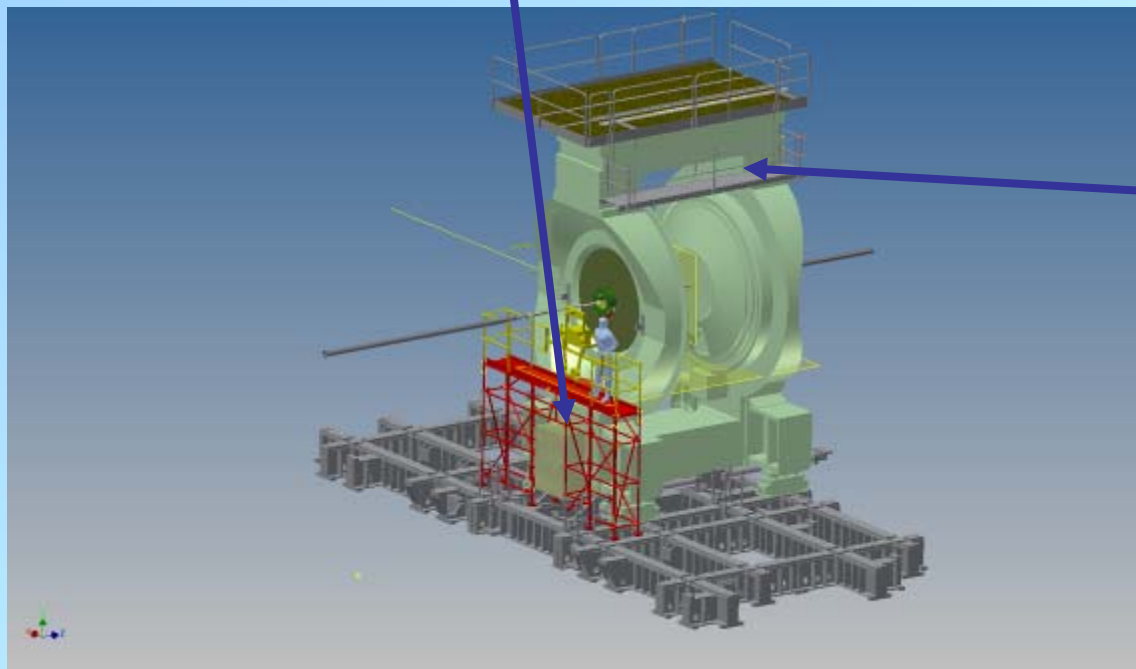
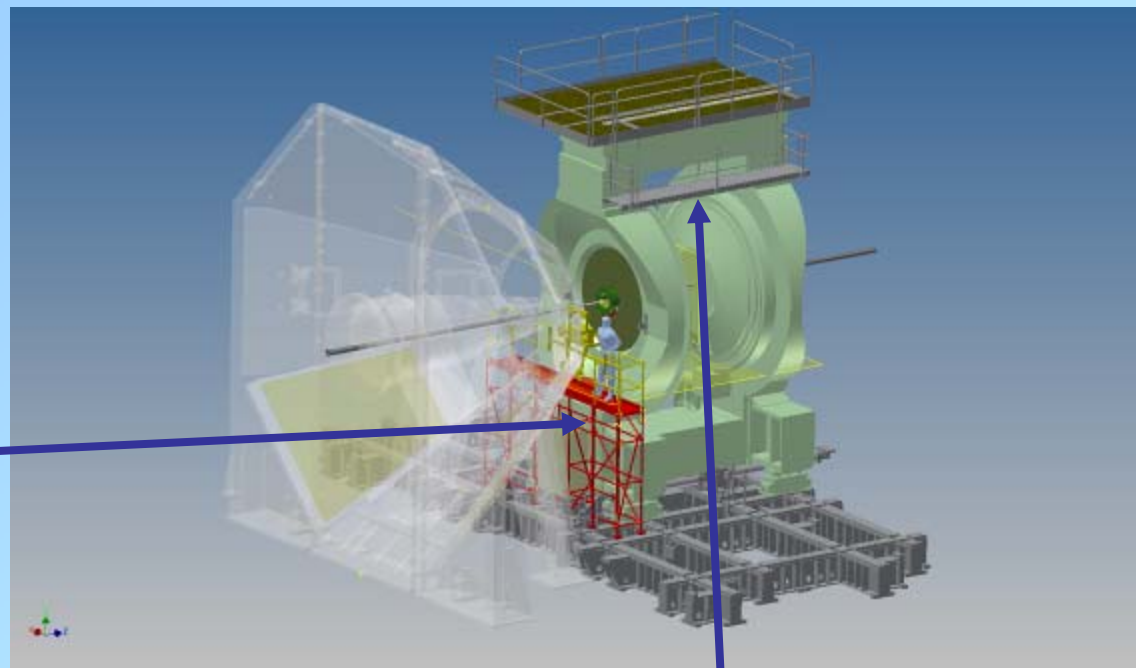
Procedures for Shutdown 2011

- Existing PHENIX General Purpose Recurring Task procedures
 - VTX Removal
 - FVTX/VTX installation
 - VTX Survey
 - FVTX Survey
 - FVTX Cooling System
 - RPC1 Installation/QA testing/Survey
 - MuTr Maintenance & Upgrade (stations 1 2 & 3)
 - MuTrigger Maintenance and Upgrade
- 
- Procedures will be part of 1 WP for VTX and FVTX

Work Permits for Shutdown 2011

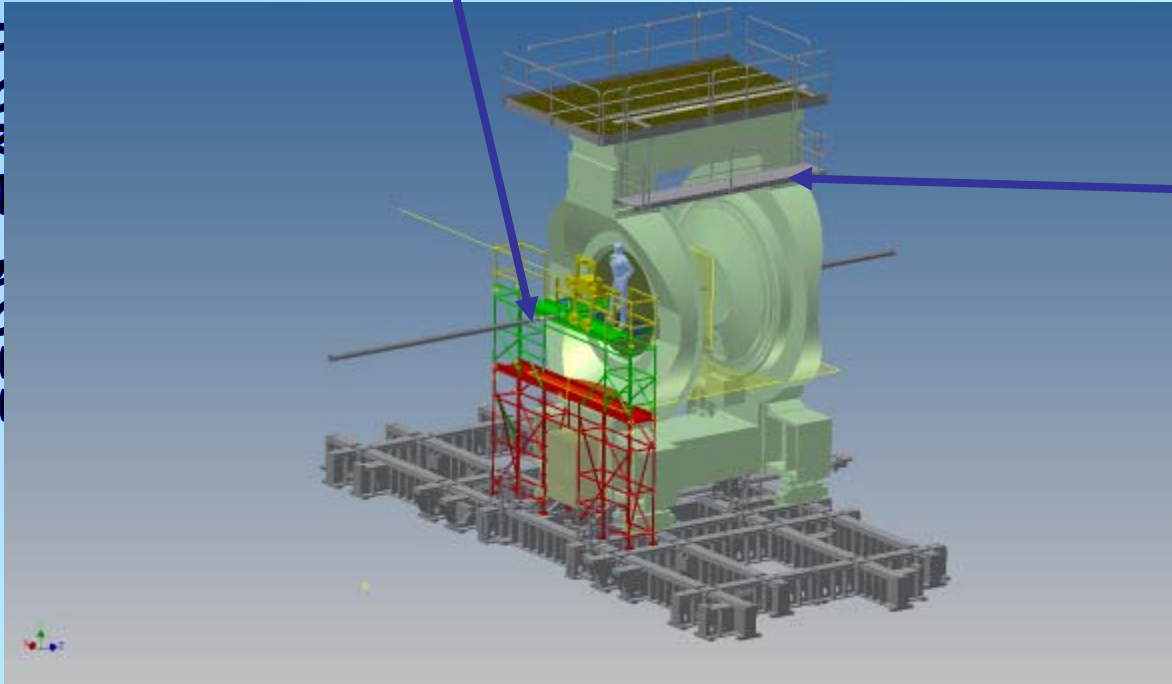
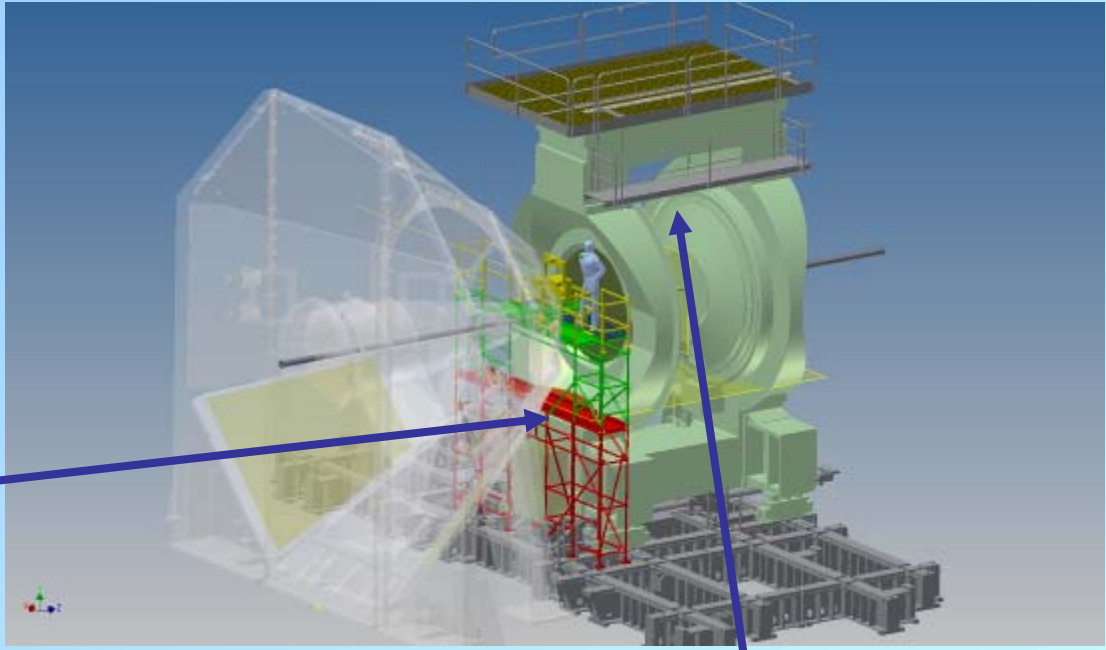
- **Start of Shutdown - Done**
- VTX Removal/FVTX/VTX Installation
- **RPC1 Prototype and proto absorber removal**
- MuTr Maintenance and Upgrade (Separate WP's for MMN and MMS access)
- RPC1 Installation
- **PC1 - Done**
- End of Shutdown

Station 1 platform configured for lower level access shown with North Muon Magnet in phantom for reference and invisible for clarity.



Central Magnet suspended work platform also shown in both models.

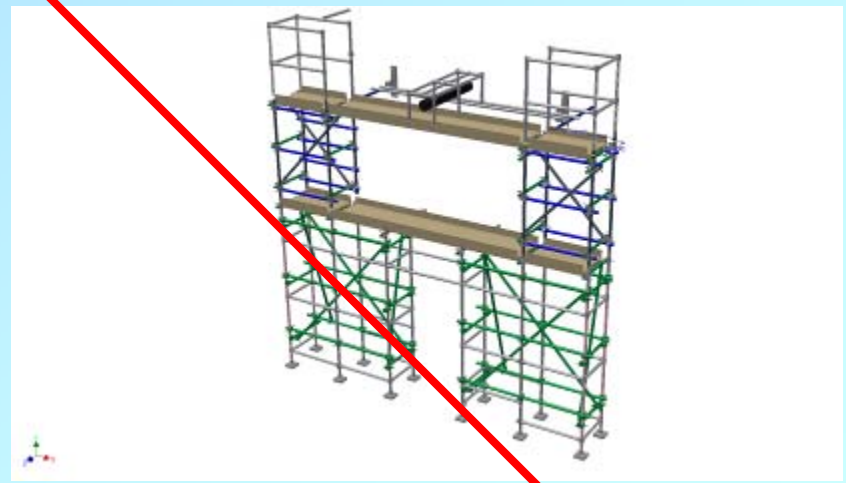
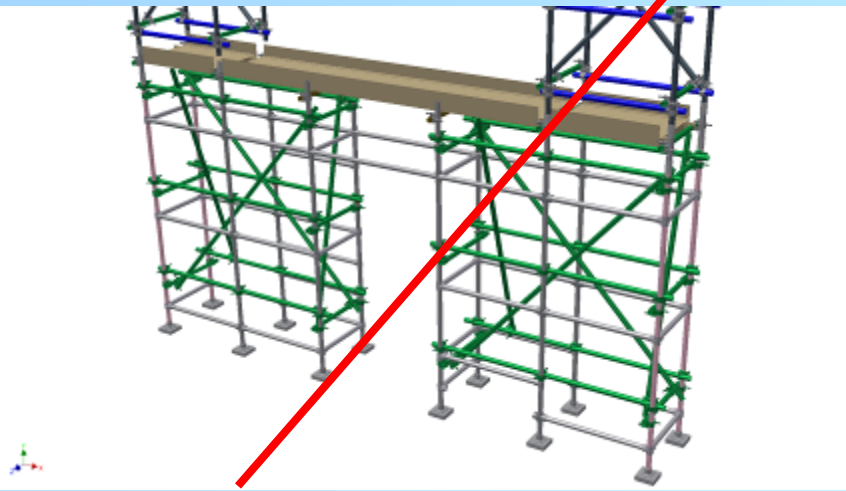
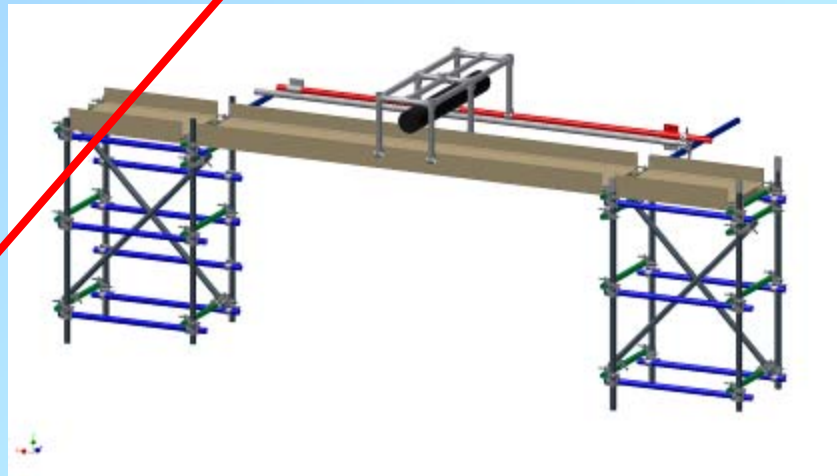
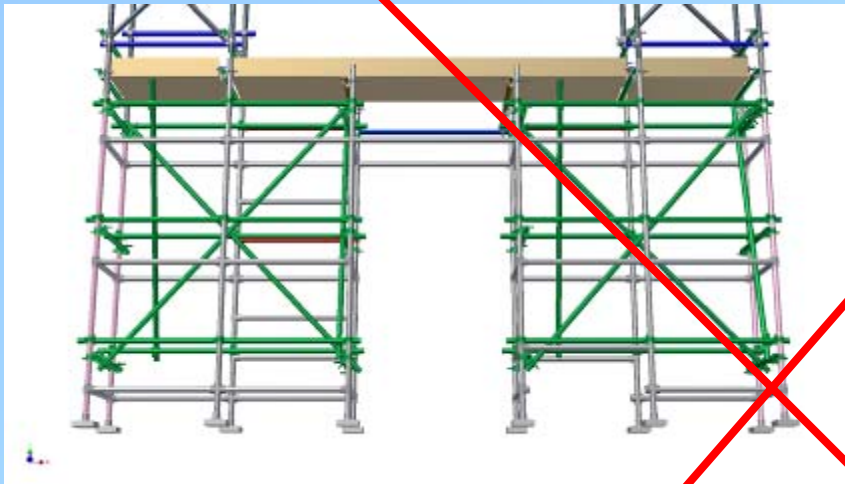
Station 1 platform configured for upper level access shown with North Muon Magnet in phantom for reference and invisible for clarity.



Central Magnet suspended work platform also shown in both models.

"Improvements"

TECHNICAL SUPPORT



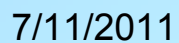
Final Design

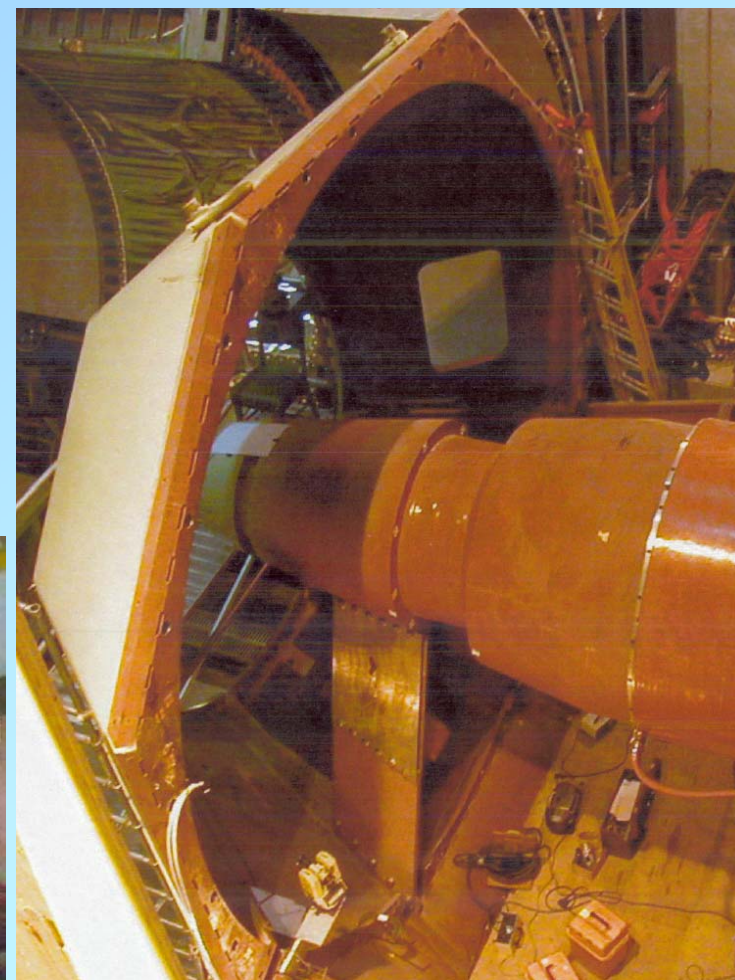
TECHNICAL SUPPORT



7/11/2011

No need to involve bargaining unit.



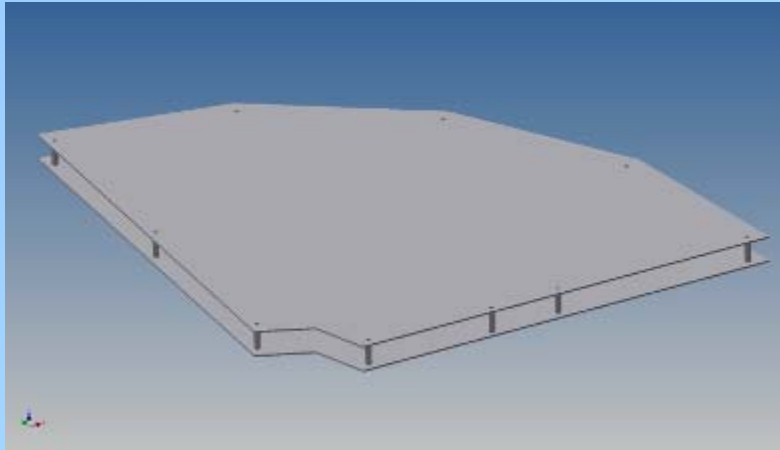


Station 2 access (MMS shown
MMN is similar)



MuTr station 1 lifting fixture
Re-certification analyses
submitted to CAD





Dummy MuTr Station 1 Octant. Will be used to re-qualify vacuum lifting fixture and to practice using vacuum lifting fixture prior to removing station 1 north octants.

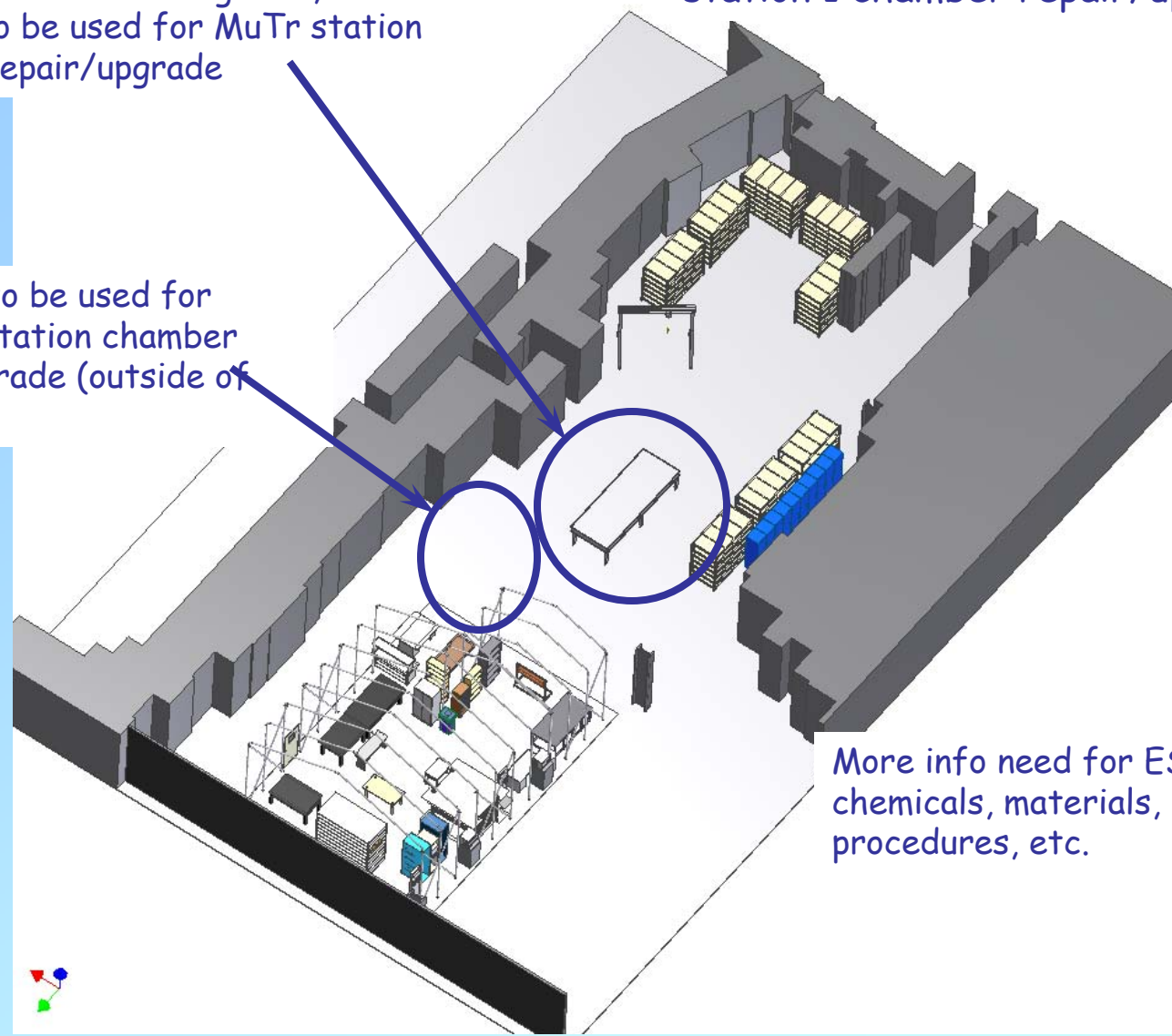


7/11/2011

This area (previously occupied by burn-in test stand and enclosing tent, now just tent) to be used for MuTr station 1 chamber repair/upgrade

This area to be used for soldering station chamber repair/upgrade (outside of tents)

RPC Factory site to be utilized by both RPC1 fabrication/testing and MuTr station 1 chamber repair/upgrade



More info need for ESRC: chemicals, materials, methods and procedures, etc.

AH and IR Crane Corrective Actions



IR Crane 1 ton replacement parts received. Paul and Mike R. planning for upgrade work, test complete



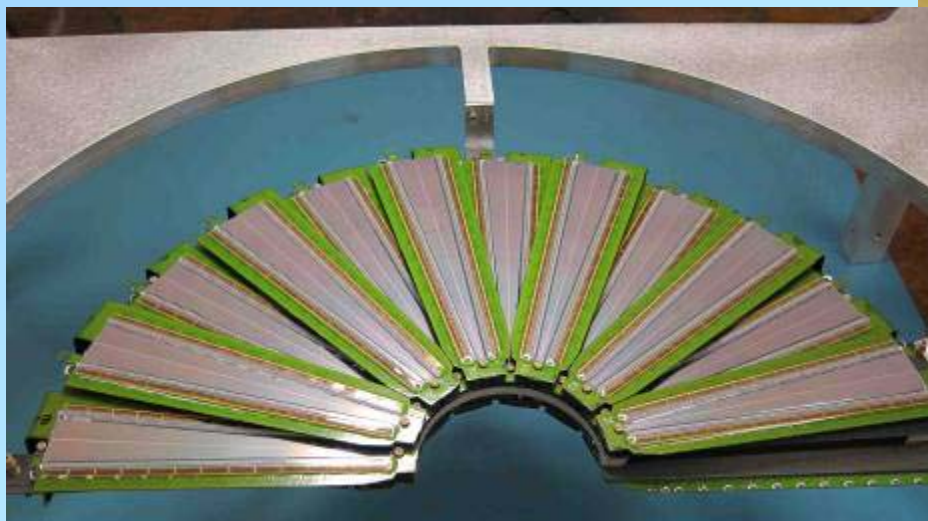
AH Crane:

Expect 10 ton crane to be back in service ASAP, ??

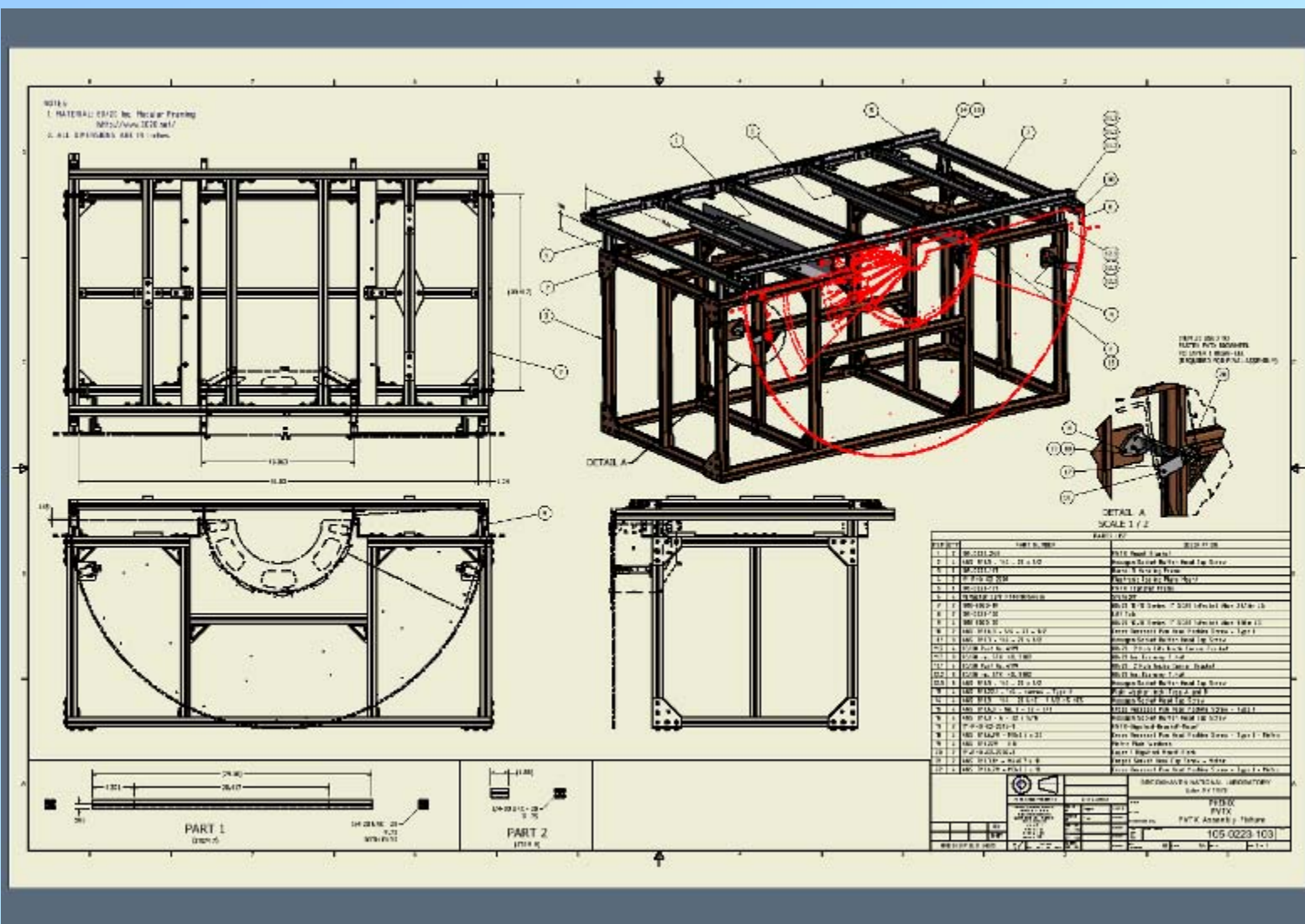
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FVTX /VTX Assembly & Integration

TECHNICAL SUPPORT

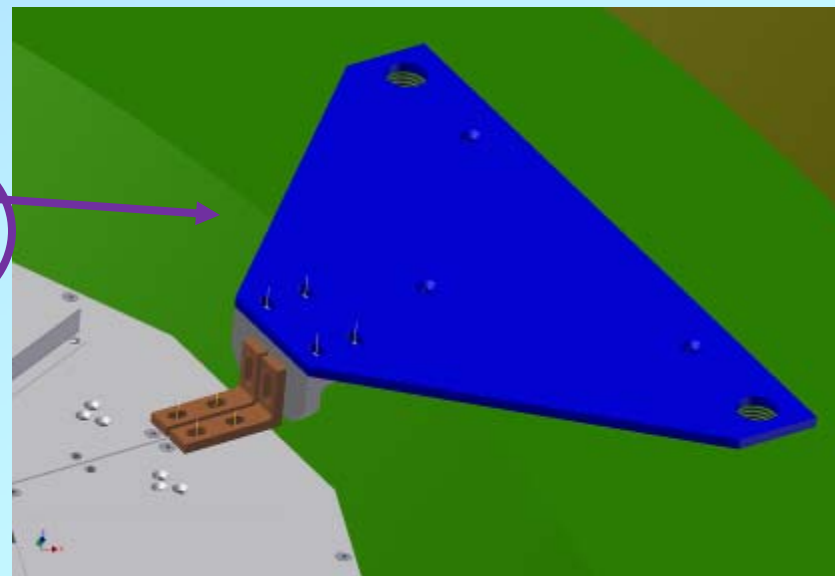
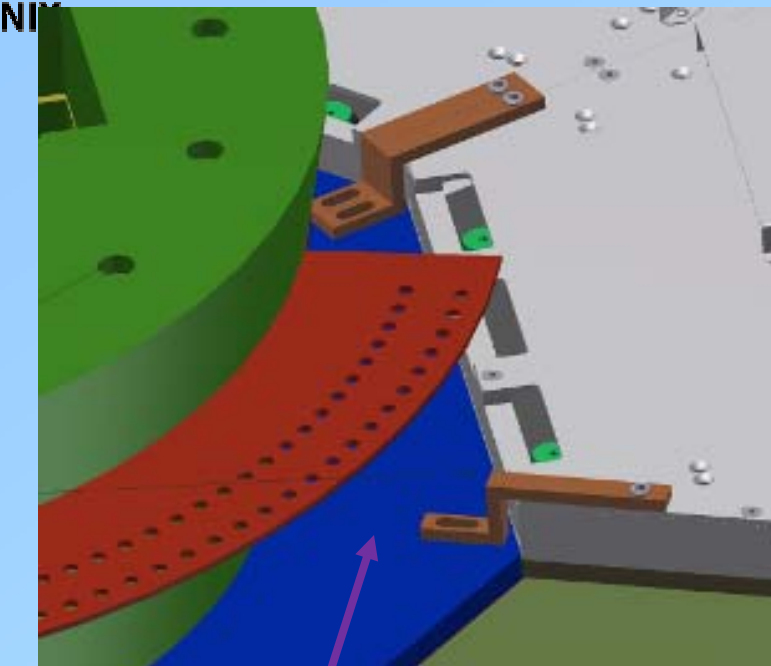


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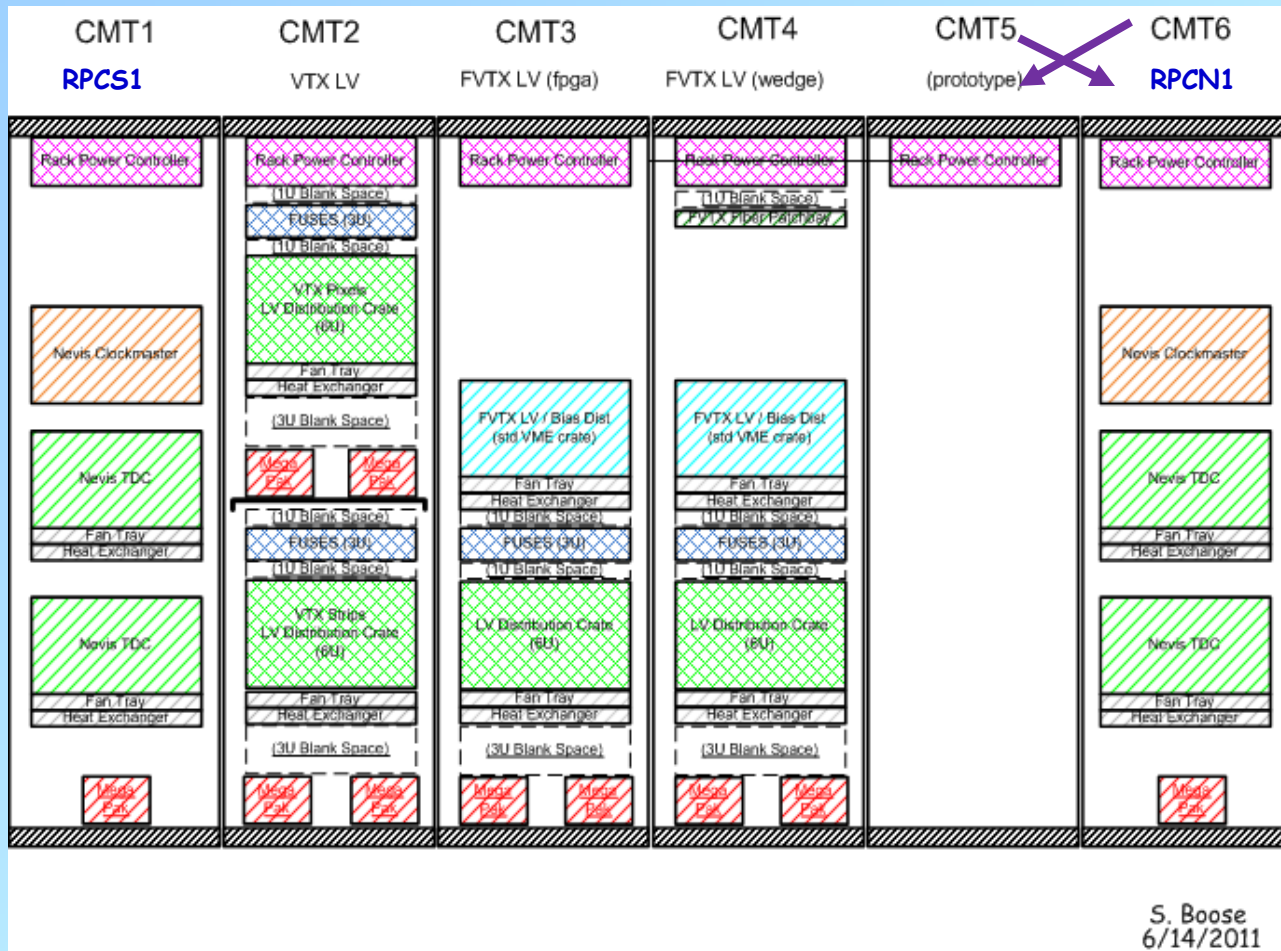
RPC1 Mounting Concept

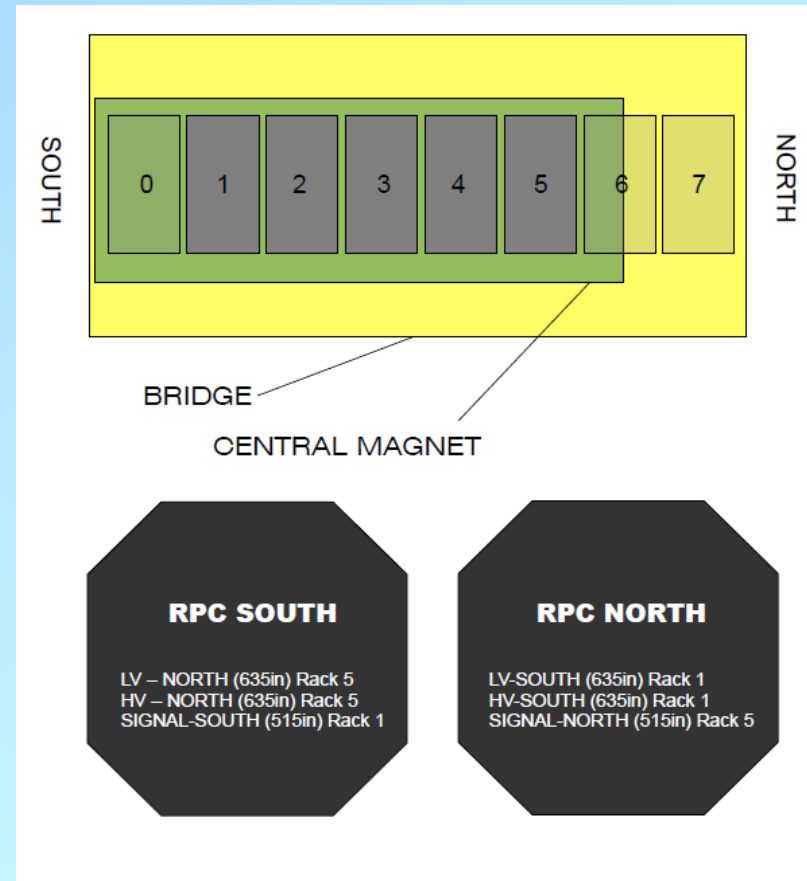
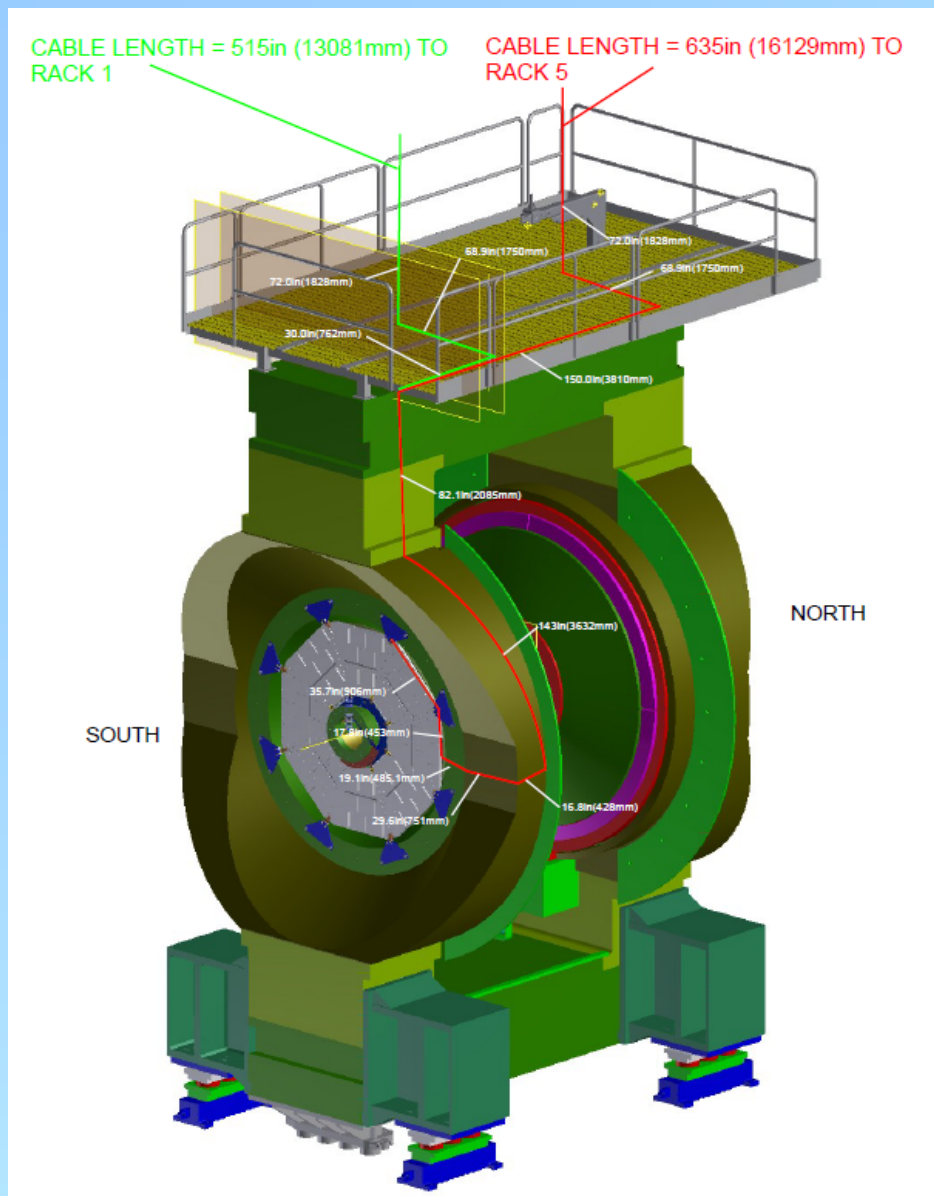
Octants are individually mounted then tied together and supported at the outer octant boundaries by brackets mounted on existing tapped holes, and on inner edges by rings which wedge against the flower pot lead liner. Tapped holes in 8 places on each octant are used both to mount the absorber section and to attach the mounting brackets.

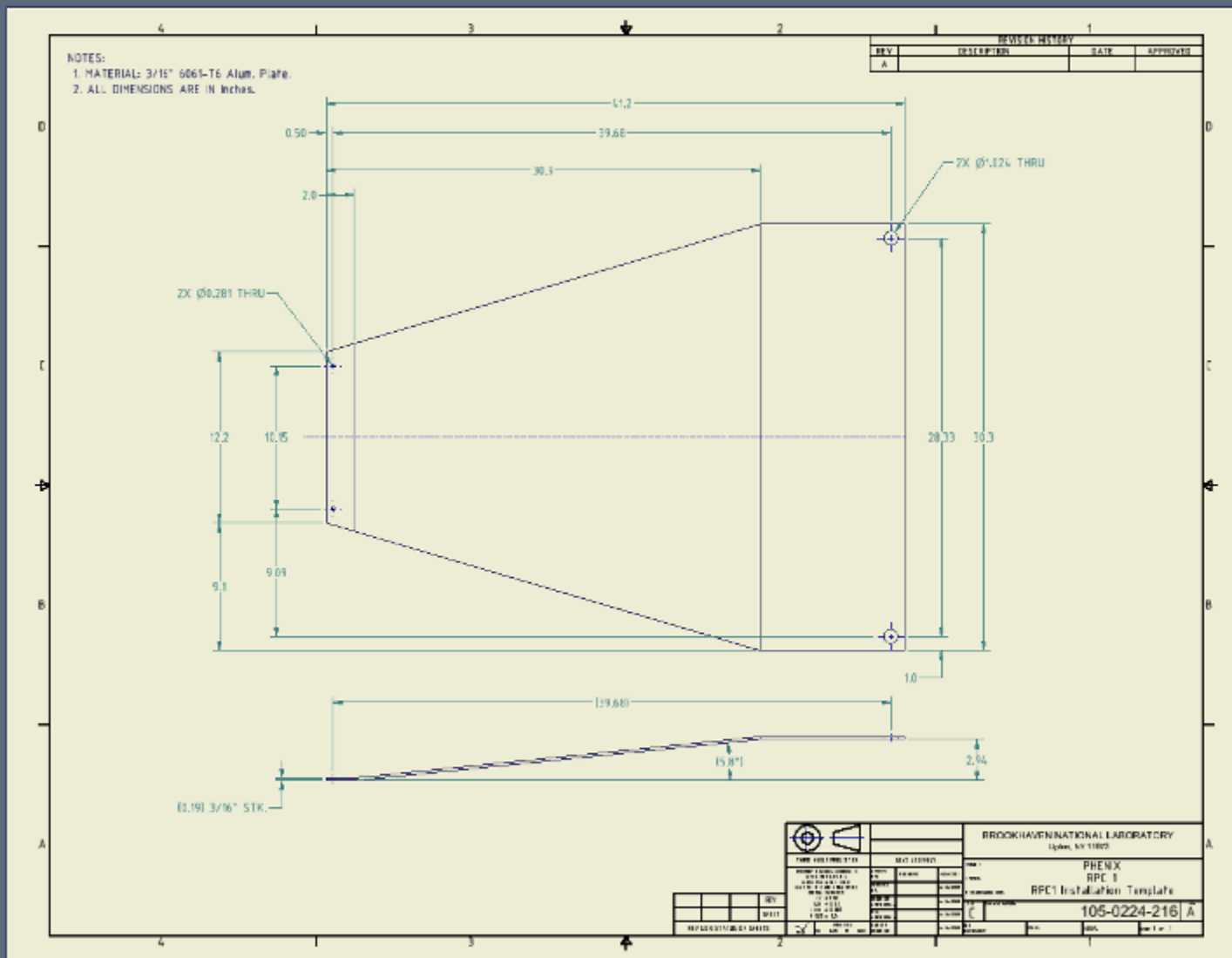


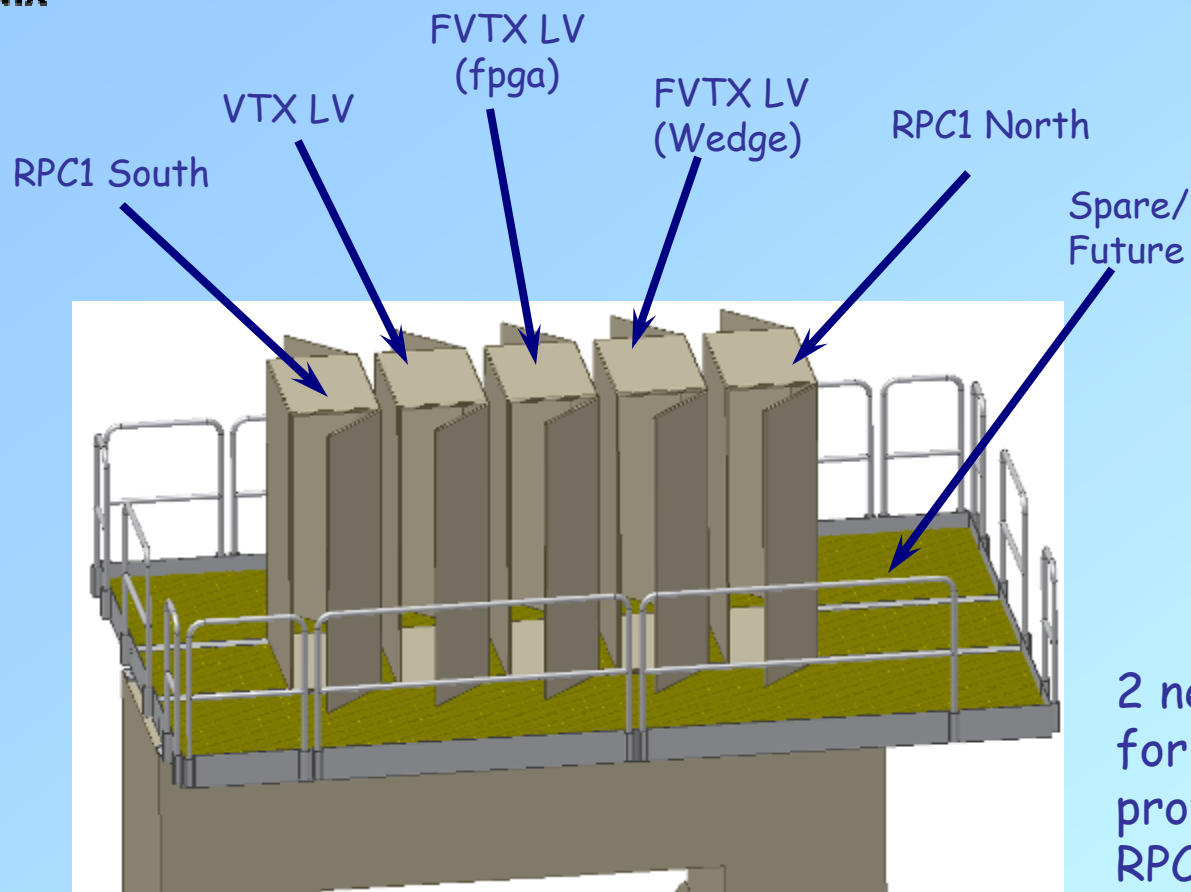
PHENIX Electronics 2011 Shutdown Installation

TECHNICAL SUPPORT









2 new racks to be added for FVTX, 1 new and prototype upgraded for RPC1. All racks will be equipped with standard PHENIX heat, smoke and water leak detection.

2010 Building Maintenance Issues

- Roof leaks in utility bathroom at northwest corner behind tech offices, over door between rack room and assembly hall, over door between control room and elect. ass'y room, southeast corner of IR and laser room.
- Flooding in AH/ Driveway heaving
- Electronics test/assembly room-to-parking lot door (does not open/close/lock properly - needs to be replaced)
- Temperature in utility hall (where new air compressor is installed) is exceedingly high (transformer cases as high as 135 F)



PHENIX Procedure Review Current Status:

147 Procedures Identified

- 87 Made Inactive (not currently in use, will require revision to re- activate if and when necessary, available for reference purposes)
- 9 CAD procedures relevant to PHENIX, all are up to date and available on the CAD web site
- 43 PHENIX approved procedures.
all are current and up-to-date
- 9 Proposed/Draft Procedures (never previously formalized) (3 are ready for review) These will be addressed during next few months.

Web retrieval of latest procedures now available from PHENIX Internal:

http://www.phenix.bnl.gov/WWW/INTEGRATION/ME&Integration/DRL_procedures.htm

All active Procedures are up to date through the end of 2011.

CAD ESRC Safety Review Action Items:

- Provide the latest schematics of the new FVTX readout boards to assure compliance with the agreement on fusing (Boose July 30, 2011)
- Review all new power supplies are NRTL equivalent compliant and affix respective labels (Giannotti July 30, 2011)
- Provide the new flammable gases leak rates for the new and re-installed systems as part of the PHENIX turn on plans (Pisani Dec 15, 2011)
- Assure security/ malware protection of the computing used to download the PLC systems (Haggerty-Giannotti July 30, 2011)
- Provide details of the chemicals to be used in the repair of the Muon Tracking chambers (Lynch July 15, 2011)
- Review and approve any conformal coating and chemical treatments for Muon Tracking chamber repair (Lynch-Cirigliaro July 15, 2011)
- Load test and certify the Muon Tracking Lifting fixture (Lynch-Gaffney July 15, 2011)
- Review and approve the proposed scaffolding (Lynch-Tuozzolo July 30, 2011)

Related items for this shutdown

- A plan for the RPC and Muon shielding upgrade inside the North and South Tunnels (Phillips)
- Better access to the PHENIX A/C systems in the IR (Phillips)

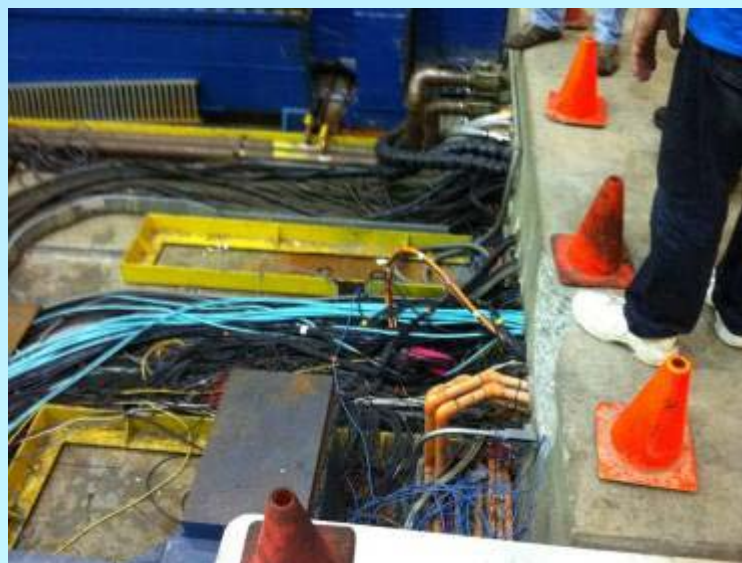
Safety Rail Issues



West CM stair rail problem:
When WC is in closed
position rail prevents
access to rack



Safety Rail on main loading platform (sill) would be undesirable, probably unsafe and inconvenient removal; installation of safety rails is bargaining unit work



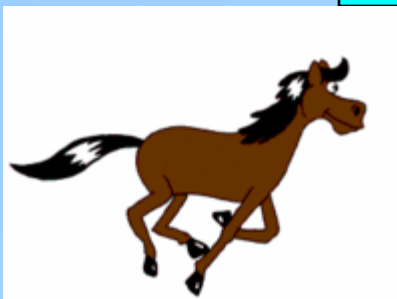
Rules for visits to PHENIX (tours) are as follows:

1. All tours must be cleared with Ed O'Brien, Don Lynch and/or Carter Biggs.
2. Tours must have a PHENIX person in charge. Large tours should have multiple PHENIX tour leaders approximately 1 tour leader per 10 visitors. Tour leaders should inform the visitors to be wary of their footing as there are many openings in the floors for tracks, etc. and many potential trip and fall hazards.
3. No visitors are to be permitted in the AH or IR with out proper shoes (closed toes, no sandals or similar), long pants or skirts (no shorts), hard hats and eye protection in any area where elevated work is being performed in areas above the tour.
4. Check with one of the PHENIX techs or engineers at the hall to find out what work will be going on at the time of the tour.
5. No visitors are to go into the assembly hall or IR when cranes are in use. This is especially true during July and November when the large and heavy wall and detector components are being assembled and disassembled.
6. Visitors are to be limited to the Assembly Hall and the apron area of the IR. Visitors are not permitted on manlifts, ladders, scaffolding, the carriages nor in or on the north, south and central magnets. Visitors are not permitted to touch or handle any tools, detector components or facility components.
7. Visitors are not permitted in the North and South tunnel areas, nor any other areas requiring special training/permits.
8. All tours should be during normal working hours.
9. PHENIX tour leaders must comply with all normal PHENIX rules.
10. The PHENIX tour leader shall be responsible for enforcing these rules with their visitors.

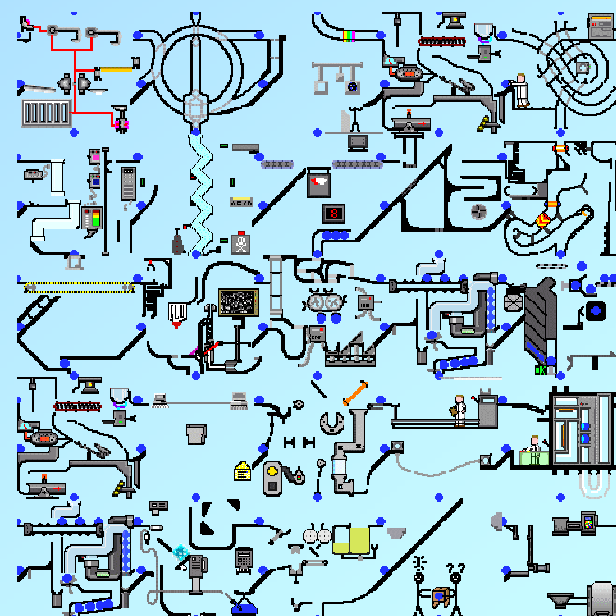
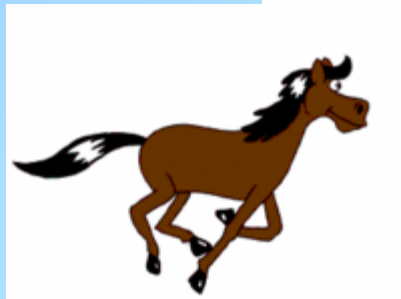
Exceptions to any of these rules must be explicitly approved by Ed, Don, or Carter. In general, exceptions would be made for contractors, vendors and scientific colleagues who might need to see certain features of the experiment not accessible from the apron. In such cases these visitors should be limited to no more than 1 or 2 persons and they may only visit the specific areas approved for such exception.

Exceptions for before or after hour tours must otherwise follow the rules for tours during normal hours.

Where To Find PHENIX Engineering Info

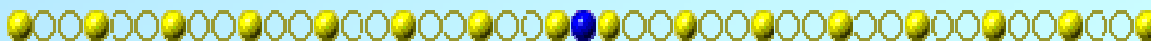


*Shutdown is here
and we're off to a
good start*



Links for the weekly planning meeting slides, archives of past meeting slides, long term planning, pictures, videos and other technical info can be found on the PHENIX Engineering web site:

http://www.phenix.bnl.gov/WWW/INTEGRATION/ME&Integration/DRL_SSint-page.htm



7/11/2011